WHAT IS CLAIMED IS:

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1. A process for sealing and insulating a fuel cell plate, the process comprising:

providing a fuel cell plate having first and second surfaces;

applying a coating precursor on at least the first surface of the fuel cell plate, the coating precursor adapted to polymerize in response to radiation or heat; and

exposing the coating precursor on the fuel cell plate to radiation or heat to initiate polymerization.

2. The process of claim 1, wherein the coating precursor is applied by screen printing.

3. The process of claim 1, wherein the coating precursor is exposed to ultraviolet radiation.

4. The process of claim 3, wherein the coating precursor is successively exposed to ultraviolet radiation of at least two different wavelengths.

5. The process of claim 1, wherein the coating precursor is exposed to infrared radiation.

6. The process of claim 1, wherein the coating precursor is adapted to polymerize in response to ultraviolet radiation.

7. The process of claim 1, wherein the coating precursor is adapted to polymerize in response to electron beam radiation.

8. The process of claim 1, wherein the coating precursor is adapted to polymerize in response to infrared radiation.

9. The process of claim 1, wherein the coating precursor is exposed to radiation for about less than about 45 minutes.

10. The process of claim 1, wherein the coating precursor is exposed to radiation for about less than about one minute.

11. The process of claim 1, wherein the coating precursor is exposed to radiation for about less than about 30 seconds.

12. The process of claim 1, wherein the coating precursor is exposed to radiation for about less than about 15 seconds.

13. The process of claim 1, wherein the coating precursor is exposed to radiation for about less than about 5 seconds.

14. The process of claim 1, wherein the coating precursor is an ultraviolet-curable coating precursor.

15. The process of claim 1, wherein the coating precursor is an electron beam-curable coating precursor.

16. The process of claim 1, wherein the coating precursor is an infrared-curable coating precursor.

17. A process for sealing and insulating a fuel cell plate, the process comprising:

providing a fuel cell plate having first and second surfaces;

applying a coating precursor on at least the first surface of the fuel cell plate, the coating precursor adapted to polymerize in response to ultraviolet radiation; and

exposing the coating precursor on the fuel cell plate to ultraviolet radiation to initiate polymerization, wherein the coating precursor includes an acrylated oligomer and a photoinitiator.

18. The process of claim 17, wherein the coating precursor further includes a mono-functional monomer for reducing viscosity.

19. The process of claim 17, wherein the coating precursor further includes a multi-functional monomer for increasing cross-link density.

20. The process of claim 17, wherein the coating precursor further includes a adhesion promoter.

21. The process of claim 17, wherein the coating precursor further includes an air-release agent.

22. An insulated fuel cell plate comprising:

a plate having first and second surfaces; and

a coating precursor applied on at least one of the first and second surfaces of the plate, the coating precursor adapted to polymerize in response to radiation or heat.

23. The insulted fuel cell plate of claim 22, wherein the coating precursor is less than about 250 μ thick.

24. The insulated fuel cell plate of claim 22, wherein the coating precursor is less than about 150 μ thick.

25. The insulated fuel cell plate of claim 22, wherein the coating precursor is adapted to polymerize in response to ultraviolet radiation.

26. The insulated fuel cell plate of claim 22, wherein the coating precursor is adapted to polymerize in response to electron beam radiation.

27. The insulated fuel cell plate of claim 22, wherein the coating precursor is adapted to polymerize in response to infrared radiation.

28. The insulated fuel cell plate of claim 22, wherein the coating precursor is substantially polymerized after exposure to radiation for about less than about 45 minutes.

29. The insulated fuel cell plate of claim 22, wherein the coating precursor is substantially polymerized after exposure to radiation for about less than about one minute.

30. The insulated fuel cell plate of claim 22, wherein the coating precursor is substantially polymerized after exposure to radiation for about less than about 30 seconds.

31. The insulated fuel cell plate of claim 22, wherein the coating precursor is substantially polymerized after exposure to radiation for about less than about 15 seconds.

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32. The insulated fuel cell plate of claim 22, wherein the coating precursor is substantially polymerized after exposure to radiation for about less than about 5 seconds.

33. An insulated fuel cell plate comprising:

a plate having first and second surfaces; and

a coating precursor applied on at least one of the first and second surfaces of the plate, wherein the coating precursor is an acrylate resin, an epoxy nitrile resin, or an organopolysiloxane, either alone or in combination.

34. The insulated fuel cell plate of claim 33, wherein the coating precursor includes an acrylated urethane oligomer and a photoinitiator.

35. The insulated fuel cell plate of claim 34, wherein the coating precursor further includes a mono-functional monomer for reducing viscosity.

36. The insulated fuel cell plate of claim 34, wherein the coating precursor further includes a multi-functional monomer for increasing cross-link density.

37. The insulated fuel cell plate of claim 34, wherein the coating precursor further includes a adhesion promoter.

38. The insulated fuel cell plate of claim 34, wherein the coating precursor further includes an air-release agent.

39. An insulated fuel cell plate comprising:

a plate having first and second surfaces; and

a coating precursor applied on at least one of the first and second surfaces of the plate, the coating precursor comprising:

an acrylated aliphatic urethane oligomer;

an acrylated epoxy oligomer;

a mono-functional monomer for reducing viscosity of the coating precursor;

a multi-functional monomer for increasing cross-link density;

an adhesion promoter; and

a photoinitiator.

40. The insulated fuel cell plate of claim 39, wherein the mono-functional monomer is isobornyl acrylate monomer.

41. The insulated fuel cell plate of claim 39, wherein the adhesion promoter is a methacrylated polyol.

42. The insulated fuel cell plate of claim 39, wherein the multi-functional monomer is propoxylated glycerol triacrylate monomer.

43. The insulated fuel cell plate of claim 39, wherein the photoinitiator is a blend of 1-phenyl-2-hydroxy-2-methyl-1-propanone and benzophenone.

44. The insulated fuel cell plate of claim 39, wherein the coating precursor further comprises an air-release agent.

45. The insulated fuel cell plate of claim 44, wherein the air-release agent is a polydimethyl siloxane.

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46. An ultraviolet radiation-curable coating precursor comprising:
an acrylated aliphatic urethane oligomer;
an acrylated epoxy oligomer;
a mono-functional monomer for reducing viscosity of the coating precursor;
a multi-functional monomer for increasing cross-link density;
an adhesion promoter; and
a photoinitiator.

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47. The ultraviolet radiation-curable coating precursor of claim 46, wherein the mono-functional monomer is isobornyl acrylate monomer.

48. The ultraviolet radiation-curable coating precursor of claim 46, wherein the adhesion promoter is a methacrylated polyol.

49. The ultraviolet radiation-curable coating precursor of claim 46, wherein the multi-functional monomer is propoxylated glycerol triacrylate monomer.

50. The ultraviolet radiation-curable coating precursor of claim 46, wherein the photoinitiator is a blend of 1-phenyl-2-hydroxy-2-methyl-1-propanone and benzophenone.

51. The ultraviolet radiation-curable coating precursor of claim 46, wherein the coating precursor further comprises an air-release agent.

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52. The ultraviolet radiation-curable coating precursor of claim 51, wherein the air-release agent is a polydimethyl siloxane.

53. An ultraviolet radiation-curable coating precursor comprising:

from about 25 wt. % to about 65 wt. % of an acrylated aliphatic urethane oligomer;

from about 5 wt. % to about 20 wt. % of an acrylated epoxy oligomer;

from about 20 wt. % to about 40 wt. % of a mono-functional monomer for reducing viscosity of the coating precursor;

from about 1 wt. % to about 5 wt. % of a multi-functional monomer for increasing cross-link density;

from about 1 wt. % to about 15 wt. % of an adhesion promoter; and

from about 0.1 wt. % to about 10 wt. % of a photoinitiator.

54. The ultraviolet radiation-curable coating precursor of claim 53, wherein the mono-functional monomer is isobornyl acrylate monomer.

55. The ultraviolet radiation-curable coating precursor of claim 53, wherein the adhesion promoter is a methacrylated polyol.

56. The ultraviolet radiation-curable coating precursor of claim 53, wherein the multi-functional monomer is propoxylated glycerol triacrylate monomer.

57. The ultraviolet radiation-curable coating precursor of claim 53, wherein the photoinitiator is a blend of 1-phenyl-2-hydroxy-2-methyl-1-propanone and benzophenone.

58. The ultraviolet radiation-curable coating precursor of claim 53, wherein the coating precursor further comprises an air-release agent.

59. The ultraviolet radiation-curable coating precursor of claim 58, wherein the air-release agent is a polydimethyl siloxane.